

CLAIMS

1. A heat exchanger construction comprising:

a header plate including an interior side, an exterior side, and a plurality of tube openings spaced along a first axis and extending between the interior and exterior sides;

a plurality of elongated flat tubes, each tube having a pair of opposed long sides and a pair of opposed short sides, each of the tubes having an end received in one of the tube openings extending past the interior side, each end including a pair of long edges defined by the long sides, each tube having a cut in each of its short sides extending from the end to adjacent the interior side of the header plate, each tube having a bend formed in each of the long sides of the tube adjacent the cut so that the long edges of the tube are adjacent the long edges of the tubes on either side of the tube.

2. The heat exchanger construction of claim 1 wherein the length of each of the long sides extending past the interior side of the header plate is approximately equal to half of the distance between the tube openings.

3. The heat exchanger construction of claim 1 wherein each of the bends is a substantially 90° bend.

2 4. The heat exchanger construction of claim 1 wherein each of the tube openings
includes a peripheral flange on the interior side of the header plate.

2 5. The heat exchanger construction of claim 1 wherein each of the long sides
between the long edges and the bends of the tubes are substantially parallel to said first
axis.

2 6. The heat exchanger construction of claim 1 wherein the long edges of each tube
are overlapped with the long edges of the tubes on either side of the tube. ~

2 7. The heat exchanger of construction of claim 1 further comprising a tank
surrounding the interior side and the tube ends and including an inlet opening for a
working fluid, and wherein for each adjacent pair of long edges the long edge of the
tube closer to the inlet opening overlays the long edge of the next tube further from the
inlet opening.

2 8. A method of producing a heat exchanger construction including a plurality of
elongated flat tube, each of the tubes having a pair of opposed long sides and a pair of

2 *Tube A'* opposed short sides transverse to a longitudinal axis of the tube, each of the tubes
having an end with a pair of long edges defined by the long sides, the method
comprising the steps of:

4 arranging the plurality of elongated flat tubes into a block of parallel flat tubes;
inserting the ends of the tubes as a group into corresponding tube openings in

6 a header plate so that each of the ends extends past an interior side of the header plate
by a predetermined distance;

10 after the inserting step, cutting the short sides of each tube between the tube end
and the interior side of the header plate;

14 after the cutting step, bending the long sides of each tube so that the long edges
of the tube are placed adjacent the long edges of the tubes on either side of the tube.

2 9. The method of claim 8 wherein the cutting and bending steps are performed in
one work step.